

Claims

1. A high energy X-ray imaging system comprising:
a Cadmium-Telluride based radiation detector unit in a high energy
5 imaging camera; and
a depolarizing, switching high voltage power supply 10 with electric charge
bleeding means, the power supply 10 in electrical communication with the
radiation detector unit.
- 10 2. The high energy imaging system of claim 1, wherein the depolarizing
power supply 10 comprises:
an external power conditioning circuit 18 connected to an external power
source 20 and providing a main operating voltage power connection 22 for
communicating conditioned electrical power to other circuits of the power
15 supply 10;
an internal power supply 30, in electrical communication with the operating
power connection 22, providing low positive and negative voltage power
as required for the other circuits of the switching power supply 10;
a low voltage power supply circuit 50, in electrical communication with the
20 operating power connection 22, generates and provides low DC voltages
for operating the detector unit;
a high voltage power supply 70, in electrical communication with the
operating power connection 22, generating and providing a high bias
voltage at a high voltage bias output 72 for communication to the high
25 voltage switch circuit 90; and
a high voltage switch 90, in electrical communication with the operating
power connection 22, the high voltage switch 90 being a fast-on/fast-off
switch, and alternately providing a high DC voltage bias and low opposite

polarity DC bleed voltage at a HV switch output 92 in response to the presence of an appropriate signal at a signal input 94, wherein the low opposite polarity DC bleed voltage at the HV switch output 92 comprises the bleed means for depolarizing the detector unit.

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3. The high energy imaging system of claim 2, wherein the high voltage switch 90 alternately provides a high positive DC voltage bias and low negative DC bleed voltage at the HV switch output 92 in response to the presence of a signal at the signal input 94.

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